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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,383	06/27/2003	Matthew Ward	WARD-01000US1	7967
23910	7590	02/04/2005	EXAMINER	
FLIESLER MEYER, LLP FOUR EMBARCADERO CENTER SUITE 400 SAN FRANCISCO, CA 94111			SAWHNEY, HARGOBIND S	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/608,383	WARD, MATTHEW	
	Examiner	Art Unit	
	Hargobind S Sawhney	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 6/27/03.
- 2a) ☐ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/23/04, 3/19/04</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. Color photographs and color drawings are acceptable only for examination purposes unless a petition filed under 37 CFR 1.84(a)(2) is granted permitting their use as acceptable drawings. In the event that applicant wishes to use the drawings currently on file as acceptable drawings, a petition must be filed for acceptance of the color photographs or color drawings as acceptable drawings. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and, unless already present, an amendment to include the following language as the first paragraph of the brief description of the drawings section of the specification:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings have been satisfied.

2. The informal drawings are not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action.

Applicant is given a TWO MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

3. Figures 1, 3, 6A, 6B, 8A and 8B are not clear and none of the figures shows or identifies the claimed matter clearly. These photographs should either be providing details in clear manner, or each one should be presented with engineering sketches or drawings.

### ***Claim Objections***

4. Claims 6, 7, 24 and 29 are objected to because of the following informalities:

Claim 6, line 1, "the lamp" should be rephrased as --the lamps -- as recited in the base Claim 1.

Regarding Claim 24, "large-size LEDs" does not reflect specifics related to either size or capacity.

Claim 29, line1, "The method of claim 28" should be rephrased as -- The system of claim 28 -- as the preamble of Claim 28 relates to a system.

Claim 7 is necessarily objected because of its dependency on the objected base Claim 6.

Appropriate correction is required.

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Claims 6, 7, 24 and 29 of the instant application have been examined considering the above-indicated suggestions.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 6-8, 10-12, 15, 17-19, 28, 30-32, 34-36, 38-40, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Mochizuki (US Patent No.: 6,386,720 B1).

Regarding claims 1-4, 6-8, 10-12, 15, 17-19, 28, 30-32, 34-36, 38-40, and 43, Mochizuki ('720 B1) discloses a system (Figure 5) comprising:

- a group of lamps – mounted on two end sides of the substrate 1- including different color light emitting diodes (LEDs) 5-n (Figure 5, column 3, lines 62-64); and a rectangular light guide 1 spreading the light over larger area (Figure 5, column 3, lines 20 and 35-37);
- a control unit 1000 capable of driving the colors of the LEDs 5-n in response to video signal (Figure 5, column 4, lines 61-64);
- the lamps including a housing 4 (Figure 5, column 3, lines 54-58);

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- The LEDs 5-n mounted on a circuit board – the combination of elements 8,10 and 11 - (Figure 5, column 4, lines 4-11);
- the lamps, including LEDs 5-n – being a grid of lamps (Figure 5); a diffuser plate – integrally moulded with the light guide substrate 1 – the diffuser plate inherently increasing the contrast of the colors (Figure 5, column 4, lines 21-24);
- the light from the LEDs 5-n going into end side surfaces of the light guide 1, and coming out the front of the light guide 1 (Figure 1, column 3, lines 17-24);
- the light guide 1 including light reflecting facets (Figure 5, column 4, lines 23-27);
- the light guide extending out from the base – one of the end side surfaces bearing LEDs 5-n being interpreted as the base – (Figure 5); and
- a frame 4 – element 11 - holding the group of lamps 5-n (Figure 3, column 4, lines 5 and 6).

7. Claims 28, 29 and 45-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown (US Patent No.: 5,184,114).

Regarding claim 28, Brown ('114) discloses a system (Figure 7) comprising:

- a group of lamps 18 each including different color light emitting diodes 40 (Figures 1-3 and 7, column 4, lines 13-17 and 34, and column 5, lines 55-573, lines 62-64);

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- the group of lamps 18 each including a light guide 58 spreading the light over larger area (Brown, Figure 3, column 5, lines 1-3);
- a control unit 100 capable of adjusting the intensity – by actuating a number of LEDs - of the LEDs 40 (Figure 8, column 5, lines 58-68, and column 6, lines 1 and 2);
- a video processor 102 capable of providing video signals to the control unit 100 (Figure 8, column 5, lines 58-68, and column 6, lines 1 and 2); and
- the control unit 100 using subset of the pixels 18, determined by address information, in the video signal (Figure 8, column 6, lines 3-10).

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamazaki et al. (US Patent No.: 6,597,348 B1).

Regarding claims 1 and 17-19, Yamazaki et al. ('348 B1) discloses a system (Figure 1) comprising:

- a group of lamps including different color LEDs 102-1 (Figure 1, column 2, lines 50 and 51, column 3, lines 66 and 67, and column 4, line 1); and a

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light guide 102 spreading the light over larger area (Figure 1, column 3, lines 66 and 67, and column 4, line 1);

- a control unit 104 capable of driving the colors of the LEDs 102-1 in response to video signal (Figures 1 and 2, column 4, lines 17-34);
- a video processor 104-2 capable of providing the video signals to the control unit 104 (Figures 1 and 2, column 4, lines 47-50); and
- the control unit 104 using subset of pixels, and determining the subsets of pixels by the address information (Figures 1 and 2, column 4, lines 3034, and Figures 7A-7C, column 7, lines 19-25).

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki (US Patent No.: 6,386,720 B1) in view of Puttman (Video Systems; March 2002; pp: 36-43) hereinafter referred as Puttman.

The prior art Puttman included in IDS filed on November 3, 2003.

Mochizuki ('720 B1) discloses a system comprising a group of lamps – mounted on two end sides of the light guide 1- the lamps including different color light emitting



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diodes (LEDs) linearly spaced on the end sides. However, Mochizuki ('720 B1) does not specifically teach the pitch between LED lamps being greater than 20mm.

On the other hand, Puttman teaches a display system including a plurality of LEDs spaced at the pitch greater than 20mm (page 4, column 2, second paragraph).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Mochizuki ('720 B1) by providing the LED spacing greater than 20mm as taught by Puttman for benefit and advantage of long viewing distance for the display.

12. Claims 9 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki (US Patent No.: 6,386,720 B1) in view of Lekson et al. (US Patent No.: 6,305,813 B1).

Regarding claims 9 and 37, dependent on claims 1 and 28 respectively, Mochizuki ('720 B1) discloses a system comprising a group of lamps – mounted on two end sides of the light guide - the lamps including different color light emitting diodes (LEDs) linearly spaced on the end sides. However, Mochizuki ('720 B1) does not teach the light guide including a collimator.

On the other hand, Lekson et al. ('813 B1) discloses a display device 10 (Figure 1) comprising a light guide 20 optically coupled to a collimator 32 (Figure 1, column 2, lines 59-61, and column 3, lines 66 and 67).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Mochizuki ('720 B1) by the collimator optically

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coupling it to the guide light as taught by Lekson et al. ('813 B1) for benefit and advantage of efficient distribution of light through the light guide.

13. Claims 13, 14, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki (US Patent No.: 6,386,720 B1) in view of Tokunaga (US Patent No.: 5,375,043).

Regarding claims 13 and 14, dependent on claims 1 and 13 respectively, and claims 41 and 42, dependent on claims 28 and 41 respectively, Mochizuki ('720 B1) discloses a system comprising a group of lamps – mounted on two end sides of the light guide - including different color light emitting diodes (LEDs) linearly spaced on the end sides. However, Mochizuki ('720 B1) does not teach the light guide forming a bulb with a center cavity for each of the LEDs.

On the other hand, Tokunaga ('043) discloses a lighting unit (Figure 1) comprising a light guide 1 forming a bulb with a center cavity receiving each of the LEDs 2a-2d – embedded in the light guide 1- (Figure 1, column 2, lines 21 and 46-48).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Mochizuki ('720 B1) by proving the light guide having the LEDs embedded init as taught by Tokunaga ('043) for benefit and advantage of efficient incidence and transmission of the light emitted by the LEDs.

14. Claims 16 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki (US Patent No.: 6,386,720 B1).

Regarding claims 16 and 44, dependent on claims 15 and 43 respectively, Mochizuki ('720 B1) discloses a system comprising a group of lamps held by a frame.

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However, Mochizuki ('720 B1) does not teach an additional frame containing another group of lamps.

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the lighting system of Mochizuki ('720 B1) by providing more than one frame containing a lamps in groups for additional light flux for brighter illumination, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

15. Claims 20-25, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US Patent No.: 5,184,114) in view Puttman (Video Systems; March 2002; pp: 36-43) hereinafter referred as Puttman.

The prior art Puttman included in the IDS filed on November 3, 2003.

Regarding claim 20, Brown ('114) discloses a system (Figure 7) comprising:

- a group of lamps 18 each including different color light emitting diodes 40 (Figures 1-3 and 7, column 4, lines 13-17 and 34, and column 5, lines 55-573, lines 62-64);
- a control unit 102 driving the colors of the LEDs 40 (Figure 8, column 5, lines 58-68, and column 6, lines 1 and 2); and
- the LEDs 40 being placed at close interval depending on the size of array of LEDs for a pre-determined size of a pixel (Figure 7, column 2, lines 21-27).

However, Brown ('114) does not specifically teach the pitch between LED lamps being greater than 20mm.

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On the other hand, Puttman teaches a display system including a plurality of LEDs spaced at the pitch greater than 20mm (page 4, column 2, second paragraph)

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Brown ('114) by providing the LED spacing greater than 20mm as taught by Puttman for benefit and advantage of long viewing distance for the display.

Regarding claims 21-25, Brown ('114) in view of Puttman discloses the system further including:

a light guide 58 spreading the light over larger area (Brown, Figure 3, column 5, lines 1-3), and light from different colored LEDs mixing in the light guide 58 (Brown, Figure 3, column 4, lines 3-6);

- the lamps 18 being grid of lamps (Brown, Figure 7);
- as best understood, the different colored LEDs 40 being of large size LEDs adapted for greater than 20mm pitch (Puttman, page 4, column 2, second paragraph); and
- the LEDs 40 clustered on a lamp 18 being driven with the same signal to create a single pixel (Figure 8, column 4, lines 16-20, column 6, lines 3-10 and 16-20).

Regarding claim 33, dependent on Claim 28, Brown ('114) discloses a system (Figure 7) comprising LEDs being placed at close interval depending on the size of array of LEDs for a pre-determined size of a pixel.

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However, Brown ('114) does not specifically teach the pitch between LED lamps being greater than 20mm.

On the other hand, Puttman teaches a display system including a plurality of LEDs spaced at the pitch greater than 20mm (page 4, column 2, second paragraph)

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Brown ('114) by providing the LED spacing greater than 20mm as taught by Puttman for benefit and advantage of long viewing distance of the display.

16. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US Patent No.: 5,184,114) in view Puttman (Video Systems; March 2002; pp: 36-43) as applied to claim 20 above, and further in view of Sheu et al. (US Patent No.: 6,522,066).

Regarding claims 26 and 27, Brown ('114) in view of Puttman discloses a display system comprising a plurality of lamps each having a pixel with LEDs emitting different color light. However, neither combined nor individual teaching of Brown ('114) and Puttman specifically discloses the LEDs being either polymer LEDs or organic LEDs.

On the other hand, Sheu et al. ('066) discloses pixel structure for display device, and the pixel structure using organic LEDs or polymer LEDs (Abstract, column 2, lines 46-49).

Regarding Claim 26, it would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Brown ('114) in view of Puttman by providing the organic LED for benefit and advantage high intensity light – as

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compare to the polymer LEDs - emitted by a compact light source operating at high energy efficiency for display panels.

Regarding Claim 27, it would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the display system of Brown ('114) in view of Puttman by providing the polymer LED for benefit and advantage light emitted by a compact light source operating at high energy efficiency for display panels.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Itoh et al. (U.S. Patent No. 6,805,468 B2), Ellen et al. (U.S. Patent No. 6,799,865 B2), Guest (U.S. Patent Application Pub. No. US 2004/0004827 A1), Lekson et al. (U.S. Patent No. 6,623,132 B2), Wu et al. (U.S. Patent No. 6,558,021 B1), Maas et al. (U.S. Patent No. 6,539,656 B2), Hoelen et al. (U.S. Patent Application Pub. No. US 2003/0043567 A1), Lowry (U.S. Patent No. 6,418,267 B1) and Kouchi et al. (U.S. Patent No. 4,868,719)

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 6:15 - 2:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571 272 2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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1/28/05



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